REMARKS

Claims 1-29 remain pending in the present application with all claims being rejected.

Rejection under USC §102

The Examiner rejected Claims 1-15 and 22 under USC §102(b) as allegedly being anticipated by U.S. Patent No. 4,784,737 (Ray). Ray describes apparatus that includes a micropipette having a tip suitable for piercing the membrane of a target cell and an electrode inserted into the lumen thereof. Ray, as its title "Electromicroinjection Of Particles Into Living Cells" implies, is concerned with a microinjection technique. Microinjection can be very damaging to cells.

Contrarily, the present invention does not involve piercing the cell membrane, but rather is placed next to a cell and uses the electric charge to make small pores in the cell membrane open up. This is less damaging and the pores readily seal up after the voltage is stopped.

Another key difference is the requirement in Ray for different voltage pulses to attract macromolecules to the tip of the electrode and then to release the macromolecules or chromosomes into the cell, see last two sentences of the Abstract:

> "The particles adhere to the surface of the micropipette with sufficient force that insertion of the micropipette tip and attached particle through the membrane of a target cell will not dislodge the particle. By applying a voltage having the opposite polarity of the attraction voltage, the particles are expelled from the micropipette to which is then withdrawn from the cell body."

The inventive device is not restricted to particular voltage protocols. Indeed, the ability of the present invention to vary and therefore optimize the voltage parameters permits electroporation of a variety of types of macromolecules, with respect to their size and charge, into a variety of cell types.

Ray does not teach or disclose "a singular container having a distal opening for positioning in close proximity to at least one cell" as claimed in amended Claim 1 and in Claim 9. Furthermore, Ray does not teach or disclose an electrical signal passing through the conductive fluid and the cell to allow the substance to pass through the distal opening and enter the cell, as claimed in amended Claim 1 and in Claim 9.

Without conceding the patentability per se of dependent Claims 2-8, 10-15, and 22 it is respectfully submitted that they are allowable by virtue of their dependence on independent Claims 1 and 9 respectively.

Rejection under USC §103

The Examiner rejected Claims 15, 16, 18-21, 26, 27 and 29 under USC §103(a) as allegedly being unpatentable over Ray in view of U.S. Patent No. 6,245,564 (Goldman).

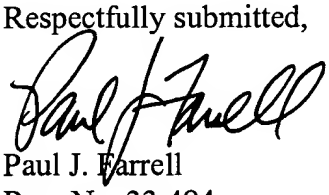
The Examiner further rejected Claim 17 under USC §103(a) as allegedly being unpatentable over Ray in view of U.S. Patent No. 5,789,213 (Hui).

Moreover, the Examiner rejected Claims 23-25 and 28 under USC §103(a) as allegedly being unpatentable over Ray in view of U.S. Patent No. 6,233,482 (Hofmann).

Without conceding the patentability per se of dependent Claims 15-21 and 23-29 it is respectfully submitted that they are allowable by virtue of their dependencies on independent Claims 1 and 9 respectively.

Accordingly, all of the claims pending in the application, namely Claims 1-29 are believed to be in condition for allowance and allowance is respectfully requested. Should the Examiner have any questions regarding this communication or feels that an interview would be helpful in advancing the prosecution of this application, the Examiner is requested to contact the undersigned attorney.

Respectfully submitted,



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